United States Environmental Protection Agency

Region 10, 1200 Sixth Avenue, Seattle WA 98101

REGIONAL QUALITY ASSURANCE ANNUAL REPORT FOR FISCAL YEAR 1995 AND WORK PLAN FOR FISCAL YEAR 1996

September 1995

Prepared For The

U.S. Environmental Protection Agency
Quality Assurance Office
Environmental Services Division
Region 10

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I. INTRODUCTION

In accordance with the Quality Management (QM) Program Plan for Region 10 (rev. 12/23/92), a Quality Assurance (QA) Annual Report and Work Plan is prepared and submitted to the Regional Administrator and to the Director of the Quality Assurance Management Staff (QAMS) located at EPA Headquarters. The purpose of this combined report and work plan is to annually document and inform Regional Management and QAMS of QM activities and capabilities within Region 10. Ultimately, this information allows the Region to implement an effective QA Program while maintaining an efficient use of resources in addition to providing QAMS with a feedback mechanism for corrective actions and other programmatic changes. The scope of this document outlines:

- The current Management and Organization of Region 10's QM Program (including the current and anticipated resource distributions for FTE, training, travel, etc..)
- A status on the implementation of Region 10's QM Program Plan
- Region 10's QM Policy regarding mandatory QA requirements for the collection of environmental measurements
- A summary of QM activities (i.e., QA plan reviews, data audits, technical and management system reviews, performance evaluation studies, etc..)
- An assessment of QM activities (corrective actions resulting from outside QAMS assessments)
- Anticipated QM activities for the upcoming Fiscal Year (including technical and management system reviews, training, evaluations, etc..)

II. QUALITY ASSURANCE MANAGEMENT AND ORGANIZATION

Region 10's Quality Assurance (QA) Program is centrally managed from the Office of Quality Assurance and Data Management (referred to as QA Office or QAO) which is located in the Environmental Service Division (ESD). The primary function of the QAO is to ensure Regional compliance with EPA Order 5360.1 (*Policy and Program Requirements to Implement the Quality Assurance Program*). This is accomplished through the implementation of Region 10's Quality Management Plan (QMP) which requires that all environmental data collected under the Region's auspices are properly documented and of sufficient quality and quantity to meet regional and national program needs (see *Region 10 Quality Management Policy*).

Authority and responsibility for the management of the Region's QA Program is delegated from the Regional Administrator to the Regional QA Manager (QAM). The QAM serves as the chief of the QAO and reports to the ESD Director. QA technical staff are also on-hand and often act as a technical liaisons with program staff. They have also been delegated limited authority by the QAM to approve/disapprove QA plans and conduct performance and system reviews of regional field and laboratory activities.

A component of the QAO is the Regional Customer Service Office (CSO). The function of the CSO is to:

- coordinate analytical services,
- track and/or document appropriate information,
- respond to or coordinate a response to field and/or analytical questions,
- coordinate and distribute data packages and storage of case file purges.

A. *REGIONAL PROGRAM ORGANIZATION AND RESPONSIBILITIES*

Regional programs which generate environmental data require QA support activities. The table on the right provides information on the management responsibilities each program has for implementation at the Regional level (including QA). Environmental measurement data arising from these programs are the product of efforts both internal and external to the Region. These programs also manage enabling federal grants and contract funds which also result in the production of environmental data.

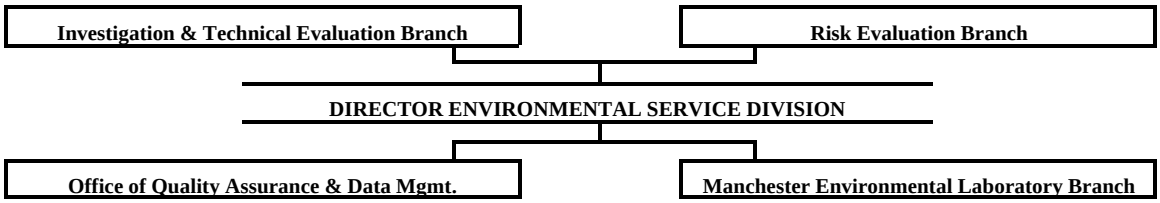
Regional Program Office	Program Management Responsibilities
Air & Toxics Division	Air programs (ambient, stationary & mobile source), pesticides, toxic substances and radiation programs.
Water Division	Public water supply, ambient surface and groundwater, UIC, estuary waters, off-shore discharge and domestic and industrial waste water treatment programs.
Hazardous Waste Division	Uncontrolled hazardous waste, RCRA and emergency response programs
Environmental Services Division	Regional QA, air and water monitoring, risk evaluation, and laboratory programs

B. *ENVIRONMENTAL SERVICES DIVISION (ESD)*

In concert with program management responsibilities is the Region's need for assessing the condition of the environment. This function is carried out by ESD.

ESD provides technical support, conducts special studies and analyzes environmental samples. The Division also processes, analyzes, reduces, reviews, evaluates and recommends the use of environmental monitoring data to the program offices. ESD overviews some State and private monitoring programs, and reviews and concurs on federal grants and contractual processes. The data arising from these programs are used on both the regional and national levels.

The branches and offices within ESD responsible for performing specific functions (either independently or in a concerted effort with other groups) are comprised of the QAO, Risk Evaluation, Laboratory and Investigations & Technical Evaluation. Management responsibilities for these groups include quality assurance, GIS, air & water monitoring, risk assessment, engineering, inspections and laboratory programs. ESD works closely with State and Regional Offices in the surveillance and analyses for the various air, water, RCRA, CERCLA, pesticides and toxic substance programs.



C. *QUALITY MANAGEMENT RESOURCES*

In Fiscal Year 1995 (FY '95) the QAO saw the addition of 2.5 more FTEs resulting from contract conversions, and a transfer into Data Management from the Risk Evaluation Branch. The QAO also brought in a stay-in-school temporary position for the purpose of providing assistance in files reduction.

	FY '95 Expenditures	FY '96* Allocations
Travel		
"A"	$14,900	
"T"	$ 5,500	
Staffing	19 FTEs	19 FTEs

The budgeting process reflects a policy of sharing resources between organizational units within the Division. ESD staff are therefore given opportunity to participate in intra-Office teaming activities that they would not normally support. Each Office is required to monitor staffing expenditures and budget distributions (other than FTEs). Staffing and travel resources for the QAO are shown to the left. Training expenditures during FY '95 are discussed below.

In order to promote teaming and to utilize the best qualified 'experts', several people in the Region have QA responsibility in addition to the QAO. These individuals, identified as Quality Assurance Coordinators (QAC), primarily from ESD, have expertise in specific areas such as air, water, drinking water laboratory certification, biology, microbiology, field activities and data processing. The QAM has the authority to request assistance from the QACs on QA matters related to their area of expertise. Upon request, the QACs function as part of the QAO. The efforts of the QACs total approximately two FTE (shown above).

Training received during FY '95 reflects an overall training budget of approximately $175 per FTE with travel expenditures tracked separately. The QAO encourages staff training through the Region's technical/scientific training program in addition to acquiring outside training opportunities, attending professional conferences and the purchase of publications and books. A list of training activities is provided in Section VI.

III. STATUS OF REGION 10 QUALITY MANAGEMENT PROGRAM PLAN

Region 10's revised Quality Management Program Plan (QMPP) was endorsed during FY '93. While no policy or procedural changes have been made since it's endorsement, re-organizational changes made during FY '95 are expected to impact those organization aspects of the Region's QMPP when the Region's new organization is implemented beginning FY '96. A review of the QMPP shows that it still meets the Region's management and program needs for the next fiscal year. Building on progress made since 1979, Region 10's QMP is gaining increased acceptance by regional monitoring programs.

During FY '95, the QAO updated the Regional QA Project Plan for PCB inspectors. Currently this plan is undergoing Regional review and will be forwarded as a replacement addendum to the QMPP once review and approval is complete. During FY '96, the QAO will begin implementation of QAMS new 'R' and 'G' documents and will also focus on strengthening State QA Programs.

IV. REGION 10 QUALITY MANAGEMENT POLICY

It is the policy of Region 10 that there shall be sufficient Quality Management activities conducted to ensure that all environmental data generated and processed shall be: scientifically valid, of adequate statistical quantity, of known precision and accuracy, of acceptable completeness, representativeness, and comparability, and where appropriate, legally defensible. Specifically, Regional policy shall comply with EPA Order 5360.1, and require the documentation of intended data uses, the establishment of appropriate data quality objectives (DQOs) to ensure the utility of data for its intended use, and the development and implementation of a Quality Assurance Project Plan (QAPP).

V. QUALITY MANAGEMENT ACTIVITIES - FY '95

A. *QUALITY ASSURANCE PROJECT PLAN REVIEWS*

QA Project Plans must be prepared by all regional monitoring programs, contractors, grantees, or other responsible organizations. Completion, review, and acceptance of these plans is a prerequisite for issuance of sample numbers and scheduling of analyses by the regional laboratory, any CLP laboratories, or other facilities. This plan will express, in specific terms, the data quality objectives and the requisite procedures, responsibilities, functional activities, and specific QA and Quality Control (QC) activities necessary to achieve the data quality objectives of each project.

Recognizing that the development of such a plan is a significant undertaking, the QAO has prepared program-specific QA guidance manuals that provide explicit instructions for preparing QA project plans. These manuals have facilitated the smooth and timely preparation of comprehensive and acceptable QA project plans.

The QAO has assisted in the development and review of 94 site-specific QA project plans during FY '95. By working closely with the EPA Project Managers, the QAO has been able to assist in the development of comprehensive and realistic

Regional Program	Number of QA Plans

QAPPs. These are fast track efforts which have resulted in the development of more precise data quality objectives (DQOs) for the site, and the understanding of the importance and use of DQOs by the involved participants, such as field and lab contractors, the regulated community and their contractors, Tribal governments, State and local agencies.

The approximate average number of days to review all plans was approximately 12 working days. Implementation of these project plans has resulted in a noticeable and substantial improvement in the overall quality of data generated by the Region.

B. *ON-SITE SYSTEM AUDITS*

A major objective of Region 10's QA program is to work with the regional programs, State and local agencies, and other interested organizations to improve their data generation and QA programs. This involves routinely reviewing and assessing the QA programs of environmental monitoring and measurement activities within the region. The program includes both on-site field and laboratory system audits and inspections, data audits, and analytical performance evaluations. The purpose of these audits is to assess and enhance each program's capability by recommending corrective measures and provide training where appropriate.

1. NAMS/SLAMS

In FY '95 the Air Characterization Section of ESD conducted two NAMS/SLAMS site audits in Washington and Idaho. No major deficiencies were noted.

2. Multi-Media

As part of the Multi-Media initiative, ESD staff performed nine inspections, which included a determination of compliance with the FIFRA, RCRA, TSCA, SPCC, Air, EPCRA, and NPDES Programs. ESD coordinated these efforts with NEIC, State Operations Offices, and various State Agencies.

3. NPDES Compliance Inspections

In FY '95, ESD conducted 118 water compliance inspections 13 of which were performed in conjunction with the multi-media inspections. These inspections included evaluations of monitoring locations, pre-treatment documentation requirements, sample collection, flowmeter verifications, sample compositor operation, analytical procedures, data calculation and documentation. The purpose of these audits is to determine compliance with permit requirements. Reports are issued to the Waste Water Management and Enforcement Branch for their review or action.

4. Air Compliance Inspections

ESD conducted 20 air compliance inspections during FY '95 of which 11 were performed with multi-media inspections. These inspections included evaluations for asbestos (NESHAP), source test, source operation, continuous monitoring; best available control technology and lowest achievable emission rates for PSD and air

permit activities. These audits are conducted in accordance with both Air Permit and/or Compliance requirements. Reports are issued to the Air and Radiation Branch for their review or action.

5. PCB Inspections

Under the TSCA Investigation program, ESD personnel conducted 33 PCB inspections during FY '95 of which eight were performed as multi-media.

6. RCRA Inspections

ESD personnel involvement for RCRA inspections was limited to the coordination of nine inspections during FY '95. All of the RCRA inspections conducted in FY '95 were performed as multi-media inspections.

7. Criminal Investigations

Eight on-site inspections were performed for the Office of Criminal Investigations during FY '95 by ESD personnel.

C. *LABORATORY SYSTEM AUDITS*

1. State Laboratory Audits

During FY '95, ESD conducted an on-site technical and management systems evaluation on the Idaho State Department of Environmental Quality Laboratory located in Boise, Idaho. This evaluation was conducted under the auspices of the SDWA, NPDES and Water Programs, CAA, Pesticides, and CERCLA and RCRA Programs. Audit findings showed dramatic improvements to the State's monitoring functions since the previous audit.

2. Hazardous Waste Laboratory Audits

QAO staff conducted three on and off-site laboratory system audits in support of superfund including two CLP pre-award audits. No major deficiencies were noted during these reviews.

3. Water Laboratory Audits

QAO staff conducted one laboratory audit in support of an NPDES inspection. ESD staff also conducted 17 drinking water certification audits for both the State Agencies and private laboratories located in Washington, Idaho and Alaska. FY '95 marks a continuation of ESD providing the State's with assistance in performing certification audits of private laboratories.

4. Air Laboratory Audits

One air laboratory audit was conducted during FY '95 in conjunction with the State of Idaho Laboratory Audit mentioned previously. No major deficiencies were noted

during this review.

The monitoring programs scheduled for technical system audits by the QAO during FY '96 are shown as follows:

Audit dates during FY '96 will be determined by the program managers. Completion of audits will depend upon whether travel and operational resources are available. The State laboratory scheduled for a technical system audit in FY '96 is the Alaska Department of Environmental Conservation Laboratory, in Juneau, Alaska.

Programs	Projects	Approx.	Est. Cost
Air/Toxics	NAMS/SLAMS	0 (lab)	$0
Air/Toxics	NAMS/SLAMS	5 (field)	$500
Water	SDWA	1 (state)	$1000
Water	SWDA	15 (lab)	$5000
Water	NPDES	1 (state)	$1000
Haz. Waste	RCRA	1 (state)	$1000
Haz. Waste	RCRA	1 (field)	$500
Haz. Waste	CERCLA	2 (lab)	$500
Haz. Waste	CERCLA	2 (field)	$500
Haz. Waste	CERCLA	1 (state)	$1000

D. *DATA AUDITS*

Audit Type	Number Completed
Completeness	8

The QAO conducts both **completeness audits** of laboratory data purge files (originals) and **data quality** audits. Completeness audits are evidentiary in nature and are designed to detect missing information and/or originals necessary to support data that is submitted in court as evidence. This process involves reviewing, copying and archiving data purge files. Data quality audits are technical evaluations that are used to assess data quality, useability and defensibility.

FY '95 saw a decrease in the amount of data acquired under contract through the CSO. This was expected due to the full implementation of the Delivery of Analytical Services (DAS) Process that was begun in late FY '94. In addition, roughly 90% of the data packages receiving data quality audits by QAO personnel, originated from the regulatory community, whereas in previous years, most of these data were generated by EPA. The QAO also assisted the Manchester Lab in it's review of on-site contractor generated data. Findings of data quality audits revealed that data quality ranged from data being suspect and unusable to acceptable. It is anticipated that project managers will request continued support for the assessment of data quality in FY '96.

E. *PERFORMANCE EVALUATIONS*

1. Water Supply and Pollution Control Programs

The Performance Evaluation (PE) Studies are vital for Regional oversight of State and Private laboratories; the WS Studies are used for drinking water laboratory

certification by both EPA and the States; the WP and DMR QA Studies are used for waste water laboratory programs by EPA Region 10 and State agencies. These studies are the most cost effective way to make some judgement of the capability of the laboratories which produce most of the data used by the Water Programs for enforcement and monitoring. Continued funding for these PE Studies is needed.

The analytical performance of the EPA, Contract, State and private NPDES and Drinking Water laboratories were assessed through the EMSL-CI and EMSL-LV (now NERL) semi-annual performance evaluation studies. The following table is a summary of the analytical performance results of both the regional and other nation-wide laboratories which participated in the two most recent water supply and water pollution studies.

PERCENT ACCEPTABLE DATA - WATER PROGRAMS

	Water Supply		Water Pollution		Microbiology	
Laboratories	**WS035**	**WS034**	**WP035**	**WP034**	**WSM25**	**WSM24**
EPA Region 10	87	85	*	99	*	100
All EPA	89	95	*	94	*	100
Region 10 States	92	84	*	97	*	100
All States	91	91	*	94	*	99
Region 10 Privates	90	88	*	93	*	99
All Privates	95	85	*	89	*	99

* Data from these studies are late and have not been received by the Region.

In general terms, EPA, State and private laboratories exhibit comparable performance. Region 10 continued submitting *"Special Requests"* to NERL for laboratories, who were otherwise not eligible, to participate in the WSM (Microbiology) PE studies.

2. Discharge Monitoring Performance Audits

The Discharge Monitoring Report (DMR) and QA Performance Evaluation studies have become an affective and integral component of the Region and State permit compliance programs. The Region is placing increased emphasis on the DMR as a major focal point for the initiation of compliance and enforcement actions. The QA audits serve to establish the only quantitative basis from which the accuracy of all the major NPDES permittee's analytical performance can be assessed. Corrective action is taken by each laboratory to correct deficiencies identified through these performance evaluation studies. The success of this program is illustrated by the improvement in the Regional and National Summary of data for the past several years.

PERCENT ACCEPTABLE DATA- DMRQA

	#15		#14		#13	
Permittees	**Chem + Tox**	**% Tox Rpt.***	**Chem + Tox**	**% Tox Rpt.***	**Chem + Tox**	**% Tox Rpt.***
Regional Level	**	**	85	35	92	61
National Level	**	**	93	33	95	77
Alaska	**	**	79	19	84	50

Idaho	**	**	87	27	91	54
Oregon	**	**	92	36	93	88
Washington	**	**	81	43	95	48

* % Tox Rpt.: Represents percentage of permittees reporting Tox data. These do not represent "levels of acceptability". Additionally, the levels of acceptability are only available for combined Chemical and Tox results. Tox has been defined as "Percent of discharge that is lethal to the organism".

** Data from this study are due to be received by the Region at the end of September, 1995.

3. Air Monitoring Performance Audits

State Air Monitoring Programs in Region 10 participate in audits at several organizational levels to assess their ability to successfully measure pollutant concentrations. These audits are conducted by the State on a quarterly basis and by the Region on an annual basis. State performance at each of these levels are generally good to excellent, with isolated and minor exceptions. The monitoring programs scheduled to participate in Region 10's analytical performance evaluations during FY '96 are as follows:

PROJECTED PERFORMANCE EVALUATIONS

Program	Number of Audits	Number of Analyses[1]	Audit Frequency[2]	Source of Materials
Air -- NAMS/SLAMS	75/yr	1	semi-annually	NERL/RTP[4]
Air -- Source Monitoring	4/yr	6	semi-annually	NERL/RTP
Water -- DMR-QA	255/yr[3]	26	annually	NERL
Water -- NPDES	74/6 mo[3]	1 - 160	semi-annually	NERL
Water -- Drinking Water	109/6 mo	1-121	semi-annually	NERL
Water -- Microbiology (WSM)	14/6 mo	72	semi-annually	NERL
Water -- Microbiology (Spec. Req.)	93/6 mo	72	semi-annually	NERL
Haz. Waste -- CERCLA	1/yr	5	semi-annually	NERL
Haz. Waste -- RCRA	1/yr	5	semi-annually	NERL

[1] Constitutes the maximum determinations per audit.
[2] Performance audit dates will be established by NERL.
[3] Complete test results for the FY '95 WS, WP, and DMR-QA studies have not been received.
[4] NERL-RTP = National Environmental Research Lab - Research Triangle Park, NC

VI. QUALITY ASSURANCE OFFICE TRAINING AND ACTIVITIES

The courses, seminars, technical meetings and various activities presented or attended by the QAO during FY '95 are as follows:

A. *TRAINING PROVIDED*

1. QA presentation for the Basic Inspector Training Course
2. QA presentation for a general Region 10 Brown-bag

B. *TRAINING RECEIVED*

1. Regional Basic Inspector Training
2. Enforcement Negotiation Skills
3. Community Relations in Superfund
4. Chemistry of Hazardous Substances

5. Hazardous Materials Incident Response Operations
6. EPA Computer Aided Data Review and Evaluation (CADRE)
7. Contract Administration Course
8. Preliminary Site Assessment Training
9. Introductory Site Inspection Training
10. Environmental Law Seminar
11. Tribal Diversity Training

C. *OTHER ACTIVITIES*

1. Participated in Regional Permit Improvement Team Stakeholder Meeting.
2. Participated in Regional Inspector Meeting/Round-table.
3. Attended Annual QA Managers Meeting in San Antonio.
4. Frequently met with program managers and project officers in order to gain an understanding of their needs and to provide them QA assistance.
5. Participated in a number of project teams.

VII. IDENTIFIED NEEDS

Based on discussion with QAO and involved ESD personnel, it would be appreciated if the following list of priority topics be made available for training in FY '96:

1. Current laboratory sample preparation and analytical techniques.
2. Field sample (soil and sediment) collection and holding time requirements.
3. Advanced auditor training workshop.
4. Training on new Agency QA requirements and procedures.

VIII. IMPLEMENTATION SCHEDULE

Listed below is a tentative schedule of QA activities necessary to satisfy FY '96 Headquarters QA program requirements and the Regional QA objectives described throughout this report. Progress of these activities will be reported to the ESD Director.

Activities	Completion Date
Revise Regional QA Plan to reflect new organizational structure and HQ requirements. Obtain recommitment from Regional Administrator of need to implement Regional QA Plan.	Within 30 days of HQ approval
Review/Approve QA Project Plans for all Monitoring Projects	Within 10 days of receipt
Update Regional Audit Manual	September 1996
Conduct Audits identified previously (PE audits and technical system audits)	Per Schedule in audit section*
Prepare QA Annual Report & Work Plan to Regional and Headquarters Management	October 1996

* Proposed audit schedules are identified in the QA Audit Section.